



AMA Chapter #3798

Chino Valley Model Aviators

Official News Letter



April 25, 2018

Volume 21 Issue 4

www.chinovalleymodelaviators.org

"To create an interest in, further the image of, and promote the hobby/sport of radio controlled aircraft"

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Aviation Fact:

The Boeing 747 burns approximately one gallon of fuel every second.

A ten-hour flight may burn up to 36,000 gallons of fuel.

Support Our Local Hobby Shop



6594 E. Second Street
Suite C,
Prescott Valley, AZ
775-4971

Member Bill Gilbert's Touch & Go Audience



Member *Bill Gilbert* was doing some touch & go landing practice with his Stik while two local pronghorn munched on our field grass and watched. His low level take off passes were ignored! The quiet electric power on his plane didn't spook them like the louder glow and gas motors.

Shel Liebach's B-17 Awaits Next Mission



Shel's B-17 is powered by four electric .15's and during a taxi test the tail lifted off as if to say "I'm ready, fly me!" We had a 90 degree crosswind so another day.



After much weeping and gnashing of teeth, our long-desired runway paving project is complete. The contractor arrived up (on time) on Tuesday the 17th and started tearing out the most degraded section of the chip seal. Unfortunately, they ran into a moisture issue that required the paving to be paused as I sought approval from the club for the expenditure of additional funds.

With approval granted, the contractor was back at it Thursday morning. In howling winds, they solved the unstable sub-grade issue with an additional 8" of asphalt over it. When done with that trucks started rolling in and new asphalt was laid down, and the

remaining chip seal was overlaid. Friday morning stripes were applied and the project completed. The only thing left is to write the check.

The majority of the western most runway barrier fence will be removed. The fence has been a source of irritation for some as a few planes have been damaged that might otherwise have simply rolled to a stop. It was requested, discussed, and approved by vote at the club meeting. A portion of the fence will be retained to shield pilots and planes from any wayward landings heading west to east.

The wind sock will be relocated to the remaining portion of the fence. While I had the paving specialists

available, I discussed this with the foreman. He strongly recommended digging out the concrete used for the fence poles, and patching the pavement with bagged cold asphalt that we can purchase at Lowe's or Home Depot. We can rent a small plate compactor and smooth it out nicely. More to come on that.

The six batteries used by our charging station were tested with a hydrometer and one was found to be weak. They will continue to be monitored with the hope of catching an imminent failure before it happens. By vote of the members present at the April meeting, the club pre-approved the replacement of the

batteries, but we'll keep using them until it becomes clear that it's time to get new ones.

Finally, a big thanks to everyone for all the help getting the paving project complete. I think we've been talking about it for several years and it finally came together. Now let's fly! *Don*



CVMA NEWSLETTER
AMA Chapter #3789

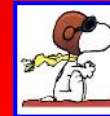
President — <i>Don Crowe</i>	
Vice President — <i>Larry Parker</i>	
Treasurer — <i>Marc Robbins</i>	
Secretary — <i>Bob Steffensen</i>	
Safety Officer — <i>Jerry English</i>	
At Large Member — <i>Randy Meathrell</i>	
Newsletter Editor — <i>Bob Shanks</i>	
Flight Instructor — <i>Marc Robbins</i>	



MARK YOUR CALENDARS

2018 Club Events

- May 19, 2018 – Spring Fling Fun Fly and Swap Meet
- Jul 4, 2018 – Club Pot luck and Fun Fly (watch town fireworks)
- Sept 22, 2018 – Annual Steve Crowe Memorial Fun Fly
- Oct 27, 2018 – Second Annual 2018 Build & Fly Challenge.
- Dec 8, 2018 – Christmas Banquet
Prescott Centennial Center
Antelope Hills Golf Course



Club Meetings:

Third Wednesday of Each Month—7 PM
Prescott Airport Executive Building.

BORN IN A BARN?



IF YOU ARE THE LAST ONE TO LEAVE THE FIELD:
PLEASE REMEMBER TO LOCK THE GATE.



SAFETY: ALWAYS A CRITICAL ISSUE

If you haven't flown a plane for a long time it is always wise to double check connections, glue joints, screws and other hardware. One item that is sometimes overlooked are propellers, double check them very closely for minor cracks or other abrasions that might cause the prop to separate when test running the power plant or even break a part in flight.

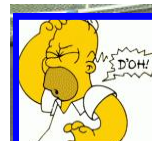
A prop that breaks loose while running can cause a lot of damage to the pilot running the model or even damage to other items in the shop or at the flying field so double check those propellers if especially after a hard landing. Check closely the tips of a prop as well because they often come into contact with the runway when taking off or landing.

Make sure all props are properly

balanced as well. An unbalance propeller can cause a lot of vibration leading to a whole host of other problems with an airplane flying.

The photo at right is of member [Rick Nichols](#) slow stick. You say "What happened?" Well as Rick tells it he lost concentration and when he regained it the plane was already doomed. Be very careful about talking to other pilots flying or if you are a spotter keep the conversations to just what is appropriate. If a pilot is flying a new plane or if the individual doesn't fly often let them concentrate on flying their plane.

One problem we all face if not careful is to let a plane get too far out



where orientation can be an issue. Keep those smaller planes in very close and if the color combinations on a plane are not conducive make sure the plane is in close so orientation won't be lost.

Your editor has a plane with a wing that is blue on top but yellow on the bottom, that plane on a sunny blue sky flying day can be lost easily if I don't keep it in where I can properly see it. **FLY SAFE!**

CLUB PILOTS AND THEIR FLYING MACHINES

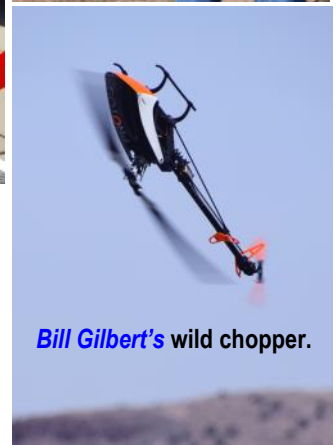


Riley Harley's Phaeton Biplane

John Meyer's E-flite P-47 Razorback 1.2m, 3000 ma 3 cell battery, w/flaps and retracts,



Don Crowe got his flying wing ready, Randy Meathrell hand launched it but it needed a little more fine tuning. It landed in the weeds undamaged.



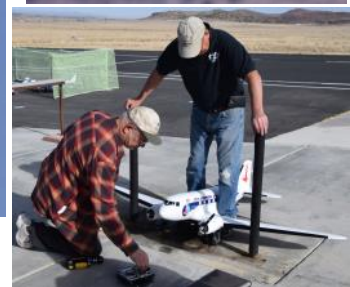
Bill Gilbert's wild chopper.



Glenn Heithold with his number 5 rendition.



Don Ferguson, left, gets his nice twin Mohawk ready to fly. Unfortunately it was a short test flight as he collided with the pylon judges safety cage trying to land it for more adjustments!



John Stewart (above) gets his beautiful DC-3 with two glow engines ready with Max Bandy's help. John is a superb builder and flyer but the DC-3 or C-47 is a bit notorious to model and fly, she just didn't get off the ground for this test.

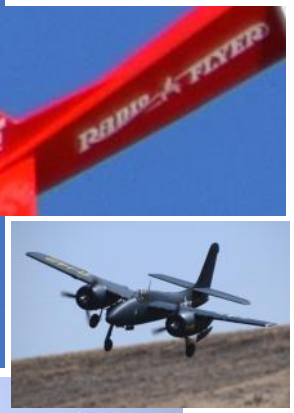




More Members' Flying Machines ...



Rick Nichols' "Radio Flyer".



Rick Nichols Radio Flyer also has a bomb bay where he can drop two parachutists.



Dennis O'Connor prepares his very nice electric F-7F Tigercat ready to fly. This is a superb and realistic flyer.



Larry Parker test flew his Douglas A-1 Skyraider.



Don Ferguson test taxied his cool electric twin Mustang. His test taxi uncovered the fact his plane needs more power for our altitude so he is planning to install bigger motors and a larger LiPo battery for more power.

RF-101 VOODOO USAF SUPERSONIC RECONNAISSANCE FIGHTER*

The McDonnell F-101 Voodoo was a supersonic jet fighter which served the United States Air Force (USAF) and the Royal Canadian Air Force (RCAF).

Editor's Note: CVMA Club member Tom Wells served in the USAF as a Flight Simulator Technician for the Voodoo.

The F-101 lineage included several versions: low-altitude fighter-bomber, photo reconnaissance, two-seat interceptor and transition trainer. To accelerate production, no prototypes were built. The first Voodoo, an F-101A fighter version, made its initial flight on Sept. 29, 1954. Development of the unarmed RF-101, the world's first supersonic photo-reconnaissance aircraft, began in 1956. When production ended in March 1961, 807 Voodoos had been built. While 35 RF-101As and 166 RF-101Cs were produced, some single- and dual-seat Voodoos were converted to the reconnaissance configuration and re-designated RF-101Bs, RF-101Gs and RF-101Hs later in their operational lives.

The RF-101C on display participated in *Operation Sun Run* in 1957. This Voodoo also flew vital low-altitude reconnaissance during the Cuban

Missile Crisis and helped confirm that offensive missile sites in Cuba were being dismantled. It also served in Southeast Asia with the 45th Tactical Reconnaissance Squadron. It was flight delivered from the 153rd Tactical Reconnaissance Squadron, Mississippi Air National Guard at Key Field, Miss., to the museum on Oct. 27, 1978.

The RF-101C Voodoo was an unarmed reconnaissance variant of the F-101C fighter. It was 69 feet, 4 inches (21.133 meters) long with a wingspan of 39 feet, 8 inches (12.090 meters). The height was 18 feet (5.486 meters). Empty weight for the RF-101C was 26,136 pounds (11,855 kilograms), with a maximum takeoff weight of 51,000 pounds (23,133 kilograms).

The F-101C was powered by two Pratt & Whitney J57-P-13 afterburning turbojet engines. The J57 was a two-spool axial-flow turbojet which had a 16-stage compressor section (9 low- and 7 high-pressure stages), and a 3-stage turbine (1 high- and 2 low-pressure stages). The J57-P-13 was rated at 10,200 pounds of thrust (45.37 kilonewtons), and 15,800 pounds (70.28 kilonewtons) with afterburner. The F-101C had a maximum speed of 1,012 miles per hour (1,629 kilometers per hour) at 35,000 feet (10,668 meters). The service ceiling was 55,300 feet (16,855 meters).

The Voodoo could carry up to three drop tanks, giving a total fuel capacity of 3,150 gallons (11,294 liters) and a maximum range of 2,145 miles (3,452 kilometers). The RF-101C carried six cameras in its nose. Two Fairchild KA-1s were aimed downward, with four KA-2s facing forward, down and to each side. Beginning in 1954, McDonnell Aircraft Corporation built 807 F-101 Voodoos. 166 of these were the RF-101C variant. This was the only F-101 Voodoo variant to be used in combat during the Vietnam War. The RF-101C remained in service with the U.S. Air Force until 1979.

At Edwards Air Force Base, on April 6, 1959 in the high desert of southern California, Colonel Edward Hamilton Taylor, United States Air Force, set a Fédération Aéronautique Internationale (FAI) World Record for Speed Over a 1000 Kilometer Course of 1,126.62 kilometers per hour (700.05 miles per hour),¹ flying a McDonnell RF-101C-75-MC Voodoo, serial number 56-0119. The F-101 Voodoo was the first production airplane capable of speeds over 1,000 miles per hour (1,609.34 kilometers per hour). Colonel Taylor's RF-101C was an unarmed photographic reconnaissance variant.

Nine days later, Captain George A. Edwards, Jr., flew another RF-101C to a World Record for Speed Over a Closed Circuit of 500 Kilometers of 1,313.677 kilometers per hour (816.281 miles per hour).²

TECHNICAL NOTES:

Armament: One MK-28 or MK-43 thermonuclear bomb (optional) Engines: Two Pratt & Whitney J57s of

15,000 lbs. thrust each with afterburner

Maximum speed: 1,000 mph

Cruising speed: 550 mph

Range: 2,060 miles

Ceiling: 45,800 ft.

Unit cost: US \$1,276,145

Number built: 807

First flight: 29 September 1954

Retired: 1972, USAF; 1982, US ANG

*References:

Voodoo by Lou Dreidel and Paul Stevens; Squadron/Signal Publications

<http://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196065/mcdonnell-rf-101c-voodoo/>

<https://www.thisdayinaviation.com/tag/mcdonnell-rf-101c-voodoo/>



An RF-101C, 45th TRS "Polka Dots" as it appeared at Misawa AB Japan 1967.



Air Force F-15 Pilot Became the First Space Ace Twenty Two Years Ago Shooting Down Orbiting Satellite

The U.S. Navy's planned attempt to destroy a de-orbiting spy satellite using a ship-launched missile sometime in May is making headlines -- but if the attempt is successful it won't be the first time the United States government has used a missile to shoot a satellite down.

More than 22 years ago, on Sept. 13, 1985, U.S. Air Force Maj. (now retired Maj. Gen.) Wilbert "Doug" Pearson became the first pilot ever to shoot down a satellite, when an ASM-135 ASAT anti-satellite missile launched from his F-15A Eagle at an altitude of 38,100 feet in the Pacific Missile Test Range some 200 miles west of Vandenberg Air Force Base, Calif.

Writing in 2001 for the Air Force Flight Test Center's (AFFTC's) Web article series Moments in Flight Test History, Dr. Raymond Puffer, the AFFTC's historian, noted that Maj. Gen. Pearson's successful ASAT mission -- dubbed the "*Celestial Eagle Flight*" -- made him "the first and only space ace." (However, the United States' then-Strategic Defense Initiative Organization successfully collided two Delta upper stages in low earth orbit in 1986, in its Delta 180 experiment. Then, early in 2007, China shot down an old weather satellite using a ground-launched ballistic missile.)

Maj. Pearson's mission Sept. 1985 mission represented the culmination of a six-year development and test program for the ASAT missile. The mission called for Maj. Pearson, the director of the U.S. Air Force's ASAT Combined Test Force, to fly a highly accurate flight profile so his aircraft would arrive at a precise firing point over the Pacific Ocean at a precise time.

Flying at just above Mach 1.2, Maj. Pearson pulled up into a 3.8g, 65-degree climb that reduced the speed of his aircraft to Mach 0.934, just below the speed of sound. At 38,100 feet, the ASAT missile launched automatically, accelerating up to escape velocity as it streaked towards its target. [Satellite Shoot Down: How it Will Work]

The infra-red sensor of the ASAT's miniature homing vehicle (MHV) -- the 30-pound third stage of the 2,700-pound, three-stage missile -- detected and tracked the intended target, the obsolete, 2,000-pound Solwind P78-1 solar laboratory launched in 1979 and orbiting at an altitude of 345 miles.

Eight solid-rocket motors ringing the circumference of the MHV were used to perform final trajectory adjustment maneuvers, with four more small rocket motors in pods at the rear of the MHV controlling its attitude as the MHV revolved around its long axis some 30 times a second to provide directional stability.

At a closing velocity of about 15,000 mph, the MHV collided with Solwind P78-1, the huge transfer of kinetic energy shattering the satellite instantly into pieces of debris and -- NASA scientists theorized later -- converting enough of the two bodies' kinetic energy to heat to vaporize the plastic materials inside Solwind and coat its brightly reflective metal surfaces with soot.

Last year, diligent research by Staff Sgt. Aaron Hartley of the Florida Air National Guard revealed that one of the aircraft the Florida ANG was operating was the same F-15A -- Air Force serial number 76-0084 -- that Maj. Gen. Pearson had flown on his historic Celestial Eagle mission.

By 2007 Maj. Gen. Pearson's son, Capt. Todd Pearson, was an active-duty F-15 pilot (and General Pearson himself was by then the vice president of the Lockheed Martin F-35 integrated test force). The stage was set for Capt. Pearson to fly his father's history-making aircraft to commemorate the 22nd anniversary of the Celestial Eagle flight.

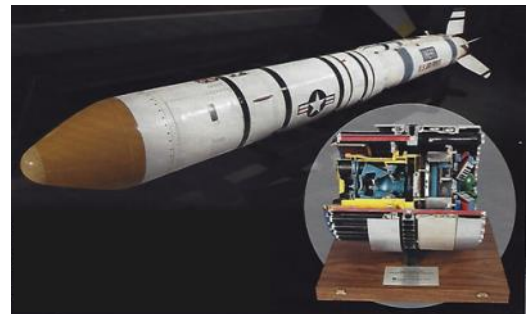
Article by Aviation.com Staff: <https://www.livescience.com/4832-satellite-22-years.html>



At 38,000' Missile Launched



Three stage ASAT Ignition



A model of the hit-to-kill vehicle (inset) above was carried on this ASM-135 missile. The miniature homing vehicle (MHV) was developed by the U.S.

It separated from the missile's second stage. It's infrared sensor acquired the Solwind Satellite destroying it kinetically.



Name the Plane: *Sikorsky X-Wing*



Famous helicopter manufacturer Sikorsky came the closest to giving the world a real version of the X-wing fighter from Star Wars. In the mid-1970s, Sikorsky began playing with experimental helicopter designs, combining new power plants with leading aerodynamics. The key airframe for these experiments was the S-72 Rotor Systems Research Aircraft.

Originally, the S-72 just tested out the possibilities of a mixed airplane/helicopter design, but in the '80s, the government provided funding for the X-wing modification of the S-72. At first glance, the X-wing looked like a normal helicopter, albeit one with very thick rotor blades and jet engines strapped to the sides of the fuselage. On takeoff, the rotor would spin just like a normal helicopter, allowing the X-wing to take off vertically. The rotors were unusual in that they did not rely on changing the pitch of the blade to generate lift. Rather, they used a complex compressed air system that bled air from the engines and blew it over the rotor tips, generating extra lift.

Once in flight, the rotors would lock in place, acting like normal airplane wings. When the X-wing transitioned to normal flight, it would fly like an airplane since the big rotors would give enough lift for the airframe, and the jet engines would give forward thrust. Unfortunately for Sikorsky, the project quickly ran over budget.

The government poured \$100 million into the project before it even had the X-wing rotors attached to the airframe. Sikorsky ran three test flights of the airframe without the rotors, but the completed X-wing never got off the ground before the Air Force pulled the plug.

The science fiction X-Wing fighter was famous in the Star Wars movies. However, the actual X-Wing rotor flight test project was sponsored by NASA, the *Defense Advanced Research Projects Agency* (DARPA), and Sikorsky Aircraft. Developers of X-Wing technology did not view the X-Wing as a replacement for either helicopters (rotor aircraft) or fixed-wing aircraft. Instead, they envisioned it as an aircraft with special enhanced capabilities to perform missions that call for the low-speed efficiency and maneuverability of helicopters combined with the high cruise speed of fixed-wing aircraft. Some such missions include air-to-air and air-to-ground tactical operations, airborne early warning, electronic intelligence, antisubmarine warfare, and search and rescue.

The X-Wing project was a joint effort of NASA-Ames, DARPA, the U.S. Army, and Sikorsky Aircraft, Stratford, Connecticut. One of the two RSRA aircraft was later modified to the X-Wing and received limited testing at Dryden.

During high-speed taxi tests at NASA's Ames-Dryden Flight Research Facility (later re-designated Dryden Flight Research Center), Edwards, California, on 4 November 1987, the vehicle made three taxi tests at speeds of up to 138 knots.

On the third run, the RSRA/X-Wing lifted off the runway to a 25-foot height for about 16 seconds. The program ended in January 1988. Research and the X-wing stopped rotor concept was cancelled because of its extreme complexity.

References: <https://www.globalsecurity.org/military/systems/aircraft/x-wing.htm>
<http://www.sikorskyarchives.com/X-WING.php>



April CVMA General Membership Meeting



General Membership meeting of April 18, 2018 was opened by President **Don Crowe** at 7:00pm and began with Pledge of Allegiance.

The Club membership now stands at 123. Sign in roster and head count showed 40 members were in attendance tonight. Guests tonight included **Lee Boekhout**, **Doug Lewis**, and **Dave Smith**. Minutes of the March meeting were approved unanimously with not corrections...a miracle indeed.

Reports

Treasurer **Marc Robbins** presented his report which was approved unanimously. He reported a balance of \$4807 and the Runway savings account at \$19805.90. Marc also provided a breakout of income and expenses for the year. Safety Officer **Jerry English** stated that the snakes are back...beware

of "diamond back" sticks around the field and workers working. Do fly safely always.

President's Agenda

President **Don Crowe** reported that the runway paving is in progress but has been delayed. There is a problem of standing water under one area of runway just beyond the present previously paved portion of the runway. The contractor will have to remove the wet soil replace it with gravel and put a 6-8 inch asphalt "bridge" across that area before they can continue. Cost is estimated at \$3500! Don said we don't have much choice and members concurred unanimously.

(An update when the additional work was finished on Thursday...the problem was not as bad as originally thought and the addition cost will be reduced to \$1850)

It has been suggested that we remove the fencing below the pilot stations as many pilots have made

errant take off runs into it. Members concurred and it will be removed; Don stated that the batteries for the charging station are aging will need to be replaced in the next few months, we won't replace them now and asked for pre-authorization of about \$915 to buy batteries if suddenly needed, members approved

We need to know any addition Build & Fly entrants: **Bob Shanks** - Rich Uravitch EDF Microwave, **Bob Noulin** - Stinger, and **Bob Steffensen** 1/6 scale Piper J3 stated they would participate.

Member Comments

VP **Larry Parker** encouraged all to respond to the recent email on Rule 336 which is being debated in Congress. Simply click on the link to send a letter to your Congressmen and Senators. Larry also provided a freebie of pipettes for glue. **Marc Johnson** pointed out there is one "vote" per email... so encourage everyone to send the message to AMA.

Mark Lipp stated that he will need judges for the Build and Fly

Challenge. President **Don Crowe** appointed Mark "Chief Judge" to begin recruiting.

Break For Treats

We broke about 7:45pm for goodies provided by **Bob Shanks**. Thanks for the cookies & mini cakes Bob! We resumed the meeting at 8pm.

Show and Tell

Larry Parker showed his shiny yellow **SIG Something Extra**...**Bob Wurth** helped with graphics; **Riley Harley** brought in his beautiful **Bristol M1**; **Ron Dickson** displayed a 1960s era TX and Rascal Junior from his early days in the hobby; **Steve Shepherd** talked about his big 77" wing span **Gold Wing Corvus**, which should be a speed demon at 280 watts/lbs.

Door Prize/Raffle

Len Brown won the door prize consisting of glue, and craft knife, then turned around and won the Tower Hobbies Ultimate Bipe in the Raffle...a clean sweep not experienced in recent Raffle history. Way to go Len!

We adjourned about 8:30pm. Respectfully, **Bob Steffensen** Club Secretary



Ron Dickson and his 60's Rascal with old Min X radio.



Record attendance, 41 members!



Mike Kidd showed his 3D printed glue holder



Jerry English's workshop



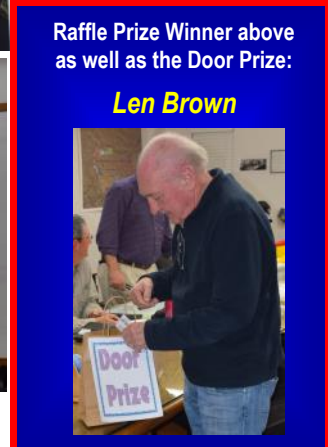
Raffle Prize Winner above as well as the Door Prize:

Len Brown



Steve Shephard and his big electric **Gold Wing Corvus**.

Upper left is **Larry Parker** and his **Sig Extra**; at right is **Riley Harley** showing his **British Bristol M1**.



FINAL RUNWAY ASPHALT PAVING PROJECT COMPLETED AFTER MANY YEARS OF EFFORT



After a countless number of years and many — many club meetings and discussions of what to do about our rough chip sealed runway the club was able to put together enough funds about 4 years ago to finish all but the about the last 60 feet or so of the east end of our runway at the top of the hill. Shortly after that fuel and paving prices skyrocketed.

Slowly, thanks to all our great members hard work, donations and saving efforts we were able finally get the last section completed. The moisture problem, far right photo, was to clay. An additional 8" was removed and then bridged with a layer of asphalt before the final top layer was added. All of these photos tell the story.

The runway is a combination asphalt and fiber glass that can last years with proper maintenance, oiling and weed eradication.

We have a great problem solving club with lots of collegiality and support for each other.



Soil with moisture is removed.



Moisture build up problem clearly visible.



Photo by Marc Robbins



Paving machine has its own "shaker" and it moves the truck as it paves.



Finished Runway photo by Bob Steffensen.